SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

      BE IT KNOWN THAT I, Ichiro Fujita, a citizen of
Japan residing at Kawasaki, Japan have invented certain new
and useful improvements in

     IMPROVED PRODUCT INFORMATION BROKERAGE SYSTEM

of which the following is a specification : -

TITLE OF THE INVENTION

       IMPROVED PRODUCT INFORMATION BROKERAGE
SYSTEM

5   BACKGROUND OF THE INVENTION

       1.   Field of the Invention

       The present invention relates generally to
a system that supports commercial transactions in
durable consumer goods (hereinafter consumer

10   durables) over an electronic network.

       2.   Description of Related Art

       Conventionally, whenever consumers want to
know the specifications for or the proper use of an
appliance or other such articles they have purchased,

15   or when they wish to contact the manufacturer, they
refer to the manual that accompanied the product at
the time of purchase. Additionally, whenever
manufacturers want to survey how well their products
are doing in the marketplace, they typically resort

20   to survey questionnaires.

       Similarly, when customers have a problem
with the goods, they contact the manufacturer, give
the name of the model and so forth, and request a
repair.

25   The manufacturers, for their part, have
used television, newspapers and other advertising
media to advertise their products.

       Additionally, when purchasing optional
equipment and replacement parts, consumers usually

30   obtain a catalogue from the retailer or the
manufacturer and then determine from the model
serial number whether the products in question match
the goods they already possess.

       Additionally, when seeking to replace the

35   items they have, consumers have compared the
catalogues for their existing goods with the
specifications found in the latest catalogues from

the retailers and manufacturers to select a suitable
replacement.

Further, when selecting a manufacturer at
time of purchase consumers check the length of time
5   of any warranty and its coverage (that is, the level
of after-sale service) from the manufacturer's web
site or catalogue.

However, it often happens that users lose
the manual or that the information contained in the
10 manual may have become outdated. Similarly,
manufacturers find that even if they use survey
questionnaires the return rates are low, and so it
is difficult to obtain accurate information on the
state of use of their products.

15 Moreover, although manufacturers do provide
a variety of information at their web sites,
virtually all such information is accessible without
any individual information registration required, so
the manufacturers obtain little or no information
20 about the users of their products. Conversely,
there are web sites available that require users to
provide individual information in exchange for the
information available at the web site. However,
users tend to avoid such sites. Thus, an
25 arrangement that users can use easily, and which
makes registration easy if such is required, is
sought.

Additionally, consumers often encounter the
problem that, when requesting servicing or repair of
30 the goods they have bought, there is the problem
that manuals are often lost and hence the requisite
contact information is unavailable.

For their part, manufacturers often
encounter the problem that even though they use
35 television and newspaper advertisements, such
advertising is generalized and unfocussed, without a
target.

Additionally, although separate from and in addition to the optional equipment and replacement parts designated as genuine by the manufacturers there are cheaper compatible alternatives that are available as well, it is not necessarily easy to find inexpensive alternatives that are compatible with the products purchased by the consumer. From the point of view of the manufacturers of these compatible alternatives, so long as they have no feedback from consumers they cannot tell how well their products are satisfying market demands, and hence they cannot effectively provide useful information to the owners of products with which their own products might be compatible.

Additionally, when it comes time to replace the articles they have purchased with similar ones, consumers sometimes cannot locate the old catalogue or obtain a new catalog, so they cannot compare specifications.

Further, although consumers can research the level of after-sales support provided by manufacturers by checking the manufacturers' web sites, in practice this means they must check each manufacturer's web site individually, which is time-consuming.

BRIEF SUMMARY OF THE INVENTION

Accordingly, it is a general object of the present invention to provide an improved product information brokerage system, in which the above-described disadvantages are eliminated.

The above-described objects of the present invention are achieved by a product information brokerage system for mediating between a plurality of users and a plurality of manufacturers via an electronic network, the system comprising:

a user information storage unit for storing

user attribute information and user-owned product
information;

a product information storage unit for
storing product information;

5   a product information providing unit for
providing users with information related to the
products owned by users based on the product
information; and

a user information providing unit for
10   providing user information to manufacturers of the
products owned by users based on the user attribute
information and user-owned product information.

According to this aspect of the invention,
a plurality of users register information about the
15   products they use and a plurality of manufacturers
register information about the products they make,
thus affording users easy access to helpful
information when their products break down and
affording manufacturers a source of reliable
20   information about the performance of their products
and allowing them to maintain appropriate inventory
levels of replacement parts for older models, thus
allowing manufacturers to provide users with more
effective service.

25   Additionally, by requiring user
registration information only when necessary to
accommodate a service repair request or register a
new product purchased, the system is easier for
consumers to use and easier for manufacturers to
30   require users to register when necessary.

Additionally, by having individual
manufacturers register the level of after-sale
service, users can make an easy comparison of
specifications and manufacturers.

35   Additionally, by having individual
manufacturers register the level of after-sale
service, users can make an easy comparison between

manufacturers.

Other objects, features and advantages of the present invention will become more apparent from the following detailed description when read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of an improved product information brokerage system according to one embodiment of the present invention;

FIG. 2 is a flow chart of steps in a processing of a service repair request;

FIG. 3 is a flow chart of steps in a process of providing an advertisement;

FIG. 4 is a flow chart of steps in a process of searching for optional parts and replacement parts;

FIG. 5 is a flow chart of steps in a process of comparing user-owned products;

FIG. 6 is a flow chart of steps in a process of comparing after-sale service information;

FIG. 7 is an initial screen shown to unregistered users;

FIG. 8 is an example of user attribute information according to the present invention;

FIG. 9 is an example of user-owned product information;

FIG. 10 is an initial screen shown to registered users;

FIG. 11 is a sample optional equipment database;

FIG. 12 is a sample list of optional items;

FIG. 13 is an example of a screen used to set terms for a process of comparing products;

FIG. 14 is a sample product comparison list;

FIG. 15 is a sample after-sale service

database;

FIG. 16 is a sample product database;

FIG. 17 is an example of data provided to the manufacturer;

FIG. 18 is an example of an advertisement request screen;

FIG. 19 is a sample list of after-sale service conditions;

FIG. 20 is an example of a screen for inputting detailed information on the malfunctioning of the product;

FIG. 21 is a sample quick estimate screen;

FIG. 22 is a sample quick estimate database;

FIG. 23 is a sample phenomenon database;

FIG. 24 is a sample frequency database; and

FIG. 25 is a sample period database.

DETAILED DESCRIPTION OF THE INVENTION

A description will now be given of embodiments of the present invention, with reference to the accompanying drawings. It should be noted that identical or corresponding elements in the embodiments are given identical or corresponding reference numbers in all drawings, with detailed descriptions of such elements given once and thereafter omitted.

FIG. 1 is a block diagram of an improved product information brokerage system according to one embodiment of the present invention.

As shown in FIG. 1, the product information brokerage system 101 is connected to a plurality of user terminals 102 and a plurality of manufacturers' terminals 103 via an electronic network such as the internet.

Additionally, the product information brokerage system 101 is connected to a user

information providing program 104 that provides
manufacturers with user information, a repair
information brokerage program 105 that brokers
repair information, an advertisement brokerage unit
5   106 that brokers advertising information, an
optional equipment brokerage program 107 that
brokers optional equipment, a replacement parts
brokerage program 108 that brokers replacement parts,
a product comparison program 109 that compares
10   products, an after-sale service comparison program
110 that compares conditions of after-sale service,
user attribute information 111 that stores user
attribute information, user-owned product
information 112 that stores information on the
15   products owned by users, a product database 113 that
stores product information, an optional equipment
database 114 that stores information on optional
equipment, a replacement parts database 115 that
stores information on consumable goods, an after-
20   sale service database 116 that stores information on
the level of after-sale service, a quick estimate
database 117 for searching for quick estimates, a
troubleshooting database 118 for storing selections
of the type of problems occurring with the product
25   as a result of breakdown, a frequency database 119
that stores selections of the frequency of the
troubleshooting input screen, and a period database
120 that stores selections of the period of the
troubleshooting screen.
30   A description will now be given of the
processing of a service repair request, with
reference to FIG. 2.
          FIG. 2 is a flow chart of steps in a
processing of a service repair request.
35   Initially, in a step S202, a user using the
system for the first time is shown an initial screen
like that shown in FIG. 7. FIG. 7 is an initial

screen shown to unregistered users. Since no
information about the product owned by the user has
been registered the initial screen does not have a
list of products owned.

5   In a step S203, in a condition selection
area based on the product database 113 of the screen
of FIG. 7, the product owned by the customer is
defined by a steady narrowing from the product
database 113. In this case, for example, "personal

10 computer" is entered for the product category, "main
unit" is entered for the sub-category, "Co. A" is
entered for the manufacturer, "ABC" for the product
series and "ABC001" for the product name. FIG. 16
shows one example of the product database 113.

15   At this point, the user selects
"Troubleshooting" from "What would you like to do?"
and presses the execute button. Next, in a step
S204 a description of what seems to be the problem
is input.

20   FIG. 20 is an example of a screen for
inputting detailed information on the malfunctioning
of the product.

        FIG. 22 shows an example of the phenomenon
master. FIG. 23 shows an example of the frequency

25 master. FIG. 24 shows an example of the period
master.

        In FIG. 20, "Paper jams when printing
output" is selected as the phenomenon, "Once every
2-3 times" is selected as the frequency and

30 "Gradually gotten worse starting about 3 months ago"
is selected as the period. Thus, selection number 1
has been selected for the phenomenon master, the
frequency master and the period master.

        The manufacturer of the product owned by

35 the user, the name of the product series, and the
name of the product are used to search the quick
estimate database 117 and a record indicating that

(in this case) the manufacturer is company A, the
product series is ABC and the name of the product is
ABC001, and further, with all selection items at 1,
an estimate of ¥10,000 is determined.

5   Next, in a step S205, the quick estimate is
displayed. FIG. 21 shows a sample quick estimate
screen as displayed.

           It should be noted that it is also possible
to display a list of option fees separate from the
10 quick estimate on the quick estimate screen.

           By pressing the button labeled "To request
repair" shown in FIG. 21, in a step S206 users are
required to decide whether or not they will conduct
user registration and product registration. If the
15 user does register, then the process proceeds to
user attribute registration in a step S207. If
there is no registration, then the process
terminates and no repair request is made.

           In a step S207, the user attributes are
20 registered in the user attribute information 111.
The actual content of what is to be registered is as
shown in FIG. 8. FIG. 8 is an example of user
attribute information according to the present
invention.

25   Next, in a step S208, information about the
product owned by the user is registered in the user-
owned product information 112. The information to
be registered is as shown in FIG. 9. FIG. 9 is an
example of user-owned product information.

30   The user ID "yamada" in the product
information 112 indicates the existence of a record
of user ID "yamada" in the user attribute
information 111. Additionally, the user-owned
product code "2" in the user-owned information 112
35 indicates that this product information pertains to
the second of the products owned by user ID "yamada".

           When user registration and product

registration have been completed, in a step S209 an
e-mail is generated as a service repair request and
transmitted to the manufacturer's e-mail address
stored in the product database 113.

5   A description will now be given of
processing in a case in which user registration and
product registration have already been completed in
a step S201.

            First, after logging in in a step S210
10 using the user ID and password of the user attribute
information 111, the initialization screen shown in
FIG. 10 is displayed in a step S211.

            Here, information from the user-owned
product information 112 linked to the user attribute
15 information 111 is displayed as a list of products
owned by a user having the user ID "yamada".

            In a step S211, in the screen showing the
list of product information as shown in FIG. 10, the
selection "It seems to be broken" is selected from
20 "What do you want to see?" The user then places a
check next to the product requiring service repair.
In a step S212, the "execute search" button is
pressed. In a step S213, the nature of the problem
is input.

25   FIG. 20 is an example of a screen for
inputting detailed information on the malfunctioning
of the product. The screen displays the resulting
match of the phenomenon master 118 and the frequency
master 119 and the period master 120 against the
30 keys provided by the user-owned product, the product
category, and the sub-category.

            FIG. 22 is a sample quick estimate database.
FIG. 23 is a sample phenomenon database. FIG. 24 is
a sample frequency database.

35   In FIG. 20, "Paper jams when printing
output" is selected as the phenomenon, "Once every
2-3 times" is selected as the frequency and

"Gradually gotten worse starting about 3 months ago"
is selected as the period. Thus, selection number 1
has been selected for the phenomenon master, the
frequency master and the period master.

5   The manufacturer of the product owned by
the user, the name of the product series, and the
name of the product are used to search the quick
estimate database 117 and a record indicating that
(in this case) the manufacturer is company A, the
10   product series is ABC and the name of the product is
ABC001, and further, with all selection items at 1,
an estimate of ¥10,000 is determined.

       Next, in a step S214, the quick estimate is
displayed. FIG. 21 is a sample quick estimate
15   screen as displayed.

       It should be noted that it is also possible
to display a list of option fees separate from the
quick estimate on the quick estimate screen.

       By pressing the button labeled "To request
20   repair" shown in FIG. 21, in a step S215 an e-mail
is generated as a service repair request and
transmitted to the manufacturer's e-mail address
stored in the product database 113.

       It should be noted that the registered user
25   attribute information 111 and the user-owned product
information 112 is provided to the manufacturer in
the form of data collated on a per-product basis, so
the manufacturers are able to obtain solid
information on how well their products are
30   performing, and, at the same time, can afford
manufacturers a grasp of the amount of inventory
they need to keep in stock for older models and
allow them to provide product owners with effective
information. FIG. 17 is an example of data provided
35   to the manufacturer.

       Next, a description will be given of the
process of providing an advertisement, with

reference to FIG. 3.

FIG. 3 is a flow chart of steps in a process of providing an advertisement.

FIG. 18 is an example of an advertisement request screen. First, in a step S301 and a step S305, it is selected whether to narrow the targets of advertisement by product or by category or not to narrow the targets of advertisement at all. If narrowing by category is selected, then a category such as "kitchen goods/refrigerator" is selected. Thereafter, the contents of the advertising are entered in the advertising contents area and the "execute" button pressed, which then causes the advertising brokerage program 106 to select the advertising target user from the user-owned product information 112. The user attribute information is then searched using the selected user ID and an e-mail address is acquired, and advertising information is sent to that e-mail address.

Next, a description will be given of optional equipment information and replacement parts information using FIG. 4.

FIG. 4 is a flow chart of steps in a process of searching for optional equipment and replacement parts.

It should be noted that the optional equipment database 114 and replacement parts database 115 are pre-recorded with information about optional equipment and replacement parts based on information provided by the manufacturer. Additionally, each of the records in the optional equipment database 114 and replacement parts database 115 has a corresponding manufacturer and product type number code, and so is linked to the product database 113.

Initially, in a step S402, the initial screen shown to unregistered users and depicted in

FIG. 7 as described above is displayed. Since no
information about the product owned by the user has
been registered the initial screen does not have a
list of products owned.

5   In a step S403, in a condition selection
area based on the product database 113 of the screen
of FIG. 7, the product owned by the customer is
defined by a steady narrowing from the product
database 113. In this case, for example, "personal

10   computer" is entered for the product category, "main
unit" is entered for the sub-category, "Co. A" is
entered for the manufacturer, "ABC" for the product
series and "ABC001" for the product name. FIG. 16
shows one example of the product database 113.

15   At this point, the user selects "Check
optional equipment" or "Check replacement parts"
from "What would you like to do?" and presses the
execute button.

            In the case of optional equipment brokerage,

20   in a step S404 the optional equipment brokerage
program 107 searches the optional equipment database
114 based on the name of the manufacturer and the
name of the product and displays a list of the
relevant optional equipment.

25   In the case of replacement parts, in a step
S505 the replacement parts program 108 searches the
replacement parts database 115 based on the name of
the manufacturer and the name of the product and
displays a list of the relevant replacement parts.

30   FIG. 11 shows a sample optional equipment
database 114. FIG. 12 is a sample list of optional
items.

            Thereafter, by pressing the "purchase"
button, in a step S406 the user is required to

35   select whether or not to proceed with user
registration and user-owned product registration.
If the user decides to register, then in a step S407

the process proceeds to user attribute registration.
If the user chooses not to register, then the
process terminates and no purchase request is made.

5   When user registration and user-owned
product information is completed, a purchase request
is sent to the manufacturer's e-mail address stored
in the product database 113.

      A description will now be given of
10 processing in a case in which user registration and
user-owned product registration has already been
completed in a step S401.

      Initially, after logging in in a step S410,
the initial screen shown in FIG. 10 is displayed in
a step S411.

15   In a step S412, the user selects "Search
optional equipment information" or "Search
replacement parts" from "What would you like to do?"
on the initial screen shown to registered users
showing the list of user-owned product information
20 as depicted in FIG. 10. The user then places a
check next to the product requiring service repair,
presses the "execute search" button. In case of the
optional equipment brokerage, in a step S413 the
optional equipment brokerage program 107 searches
25 the optional equipment database 114 based on the
name of the manufacturer and the name of the product,
in this case "Co. A" and "ABC001", respectively, and
then displays a list of the relevant products.

      In the case of replacement parts brokerage,
30 in a step S413 the replacement parts brokerage
program 108 searches the replacement parts database
115 based on the name of the manufacturer and the
name of the product, in this case "Co. A" and
"ABC001", respectively, and a list of the relevant
35 replacement parts is displayed.

      If thereafter the "purchase" button is
pressed, then a purchase request is sent to the

manufacturer's e-mail address stored in the product
database 113.

A description will now be given of a
process of comparing products, with reference to FIG.
5   5.

FIG. 5 is a flow chart of steps in a
process of comparing user-owned products.

For purposes of illustration, it should be
noted that the description assumes that product
10   specification information based on the manufacturer
have already been registered in the product database
113.

Initially, in a step S502, a user using the
system for the first time is shown the initial
15   screen depicted in FIG. 7. Since no information
about the product owned by the user has been
registered the initial screen does not have a list
of user-owned products.

In a step S503, in the condition selection
20   area based on the product database 113 of the screen
of FIG. 7, the product owned by the customer is
defined by a steady narrowing from the product
database 113. In this case, for example, "personal
computer" is entered for the product category, "main
25   unit" is entered for the sub-category, "Co. A" is
entered for the manufacturer, "ABC" for the product
series and "ABC001" for the product name. FIG. 16
shows one example of the product database 113.

At this point, the user selects
30   "Troubleshooting" from "What would you like to do?"
and presses the execute button.

Based on the information in the product
database 113, the product comparison program 109
displays a screen used to set terms for a process of
35   comparing products like that depicted in FIG. 13 in
a step S504. Records extracted from the product
database 113 by user-owned product category and sub-

category are further narrowed by manufacturer, type
and series using the screen used to set terms for a
process of comparing products as shown in FIG. 13,
and a list of the remaining products is then

5   displayed. The user then specifies the product or
products for which comparison is sought and then
presses the execute button, which then displays a
sample product comparison list like that shown in
FIG. 14.

10   If on the screen shown in FIG. 14 the 12301
product of company B is selected, then the check box
for the 12301 product of company B is checked and
the purchase button is pressed.
             In a step S507, the user is required to

15   select whether to carry out user registration and
user-owned product registration. If the user does
register, then the process proceeds to user
attribute registration in step S508. If the user
elects not to register, then the process terminates

20   and no purchase order is generated.
             Once user registration and user-owned
product registration is completed, a purchase
request is sent to the manufacturer's e-mail address
stored in the product database 113.

25   A description will now be given of
processing in a case in which user registration and
user-owned product registration has already been
completed in a step S501.
             Initially, after logging in in a step S511,

30   the initialization screen shown in FIG. 10 is
displayed in a step S512.
             Here, information from the user-owned
product information 112 linked to the user attribute
information 111 is displayed as a list of products

35   owned by the user having the user ID "yamada".
             In a step S513, the user selects "Product
comparison" from "What would you like to do?" on the

initial screen shown to registered users showing the
list of user-owned product information as depicted
in FIG. 10. The user then presses the "execute
search" button.

5   In a step S514, the product comparison
program 109 displays the screen used to set terms
for a process of comparing products shown in FIG. 13
in a step S504 based on the information in the
product database 113. Records extracted from the

10   product database 113 by user-owned product category
and sub-category are further narrowed by
manufacturer, type and series using the screen used
to set terms for a process of comparing products as
shown in FIG. 13, and a list of the remaining

15   products is then displayed. The user then specifies
the product or products for which comparison is
sought and then presses the execute button, which
then displays a sample product comparison list like
that shown in FIG. 14.

20   If on the screen shown in FIG. 14 the 12301
product of company B is selected for purchase, then
the check box for the 12301 product of company B is
checked and the purchase button is pressed. In a
step S517 a purchase request order is then sent to

25   the manufacturer's e-mail address stored in the
product database 113.

          Next, a description will be given of the
process of comparing after-sale service records,
with reference to FIG. 6.

30   FIG. 6 is a flow chart of steps in a
process of comparing after-sale service information.

          It should be noted that the following
description assumes that after-sale service
information on each manufacturer (based on

35   information from each manufacturer) has already been
registered in the after-sale service database 116.
FIG. 15 is a sample after-sale service database.

Initially, in a step S602, a user using the system for the first time is shown the initial screen shown in FIG. 7. Since no information about the product owned by the user has been registered the initial screen does not have a list of user-owned products.

In the condition selection area based on the product database 113 of the screen of FIG. 7, "personal computer" is entered for the product category and "main unit" is entered for the sub-category. The user selects "Comparison of after-sale service conditions" from "What would you like to do?" and then presses the "Execute search" button.

Records are extracted from the after-sale service database 116 using the above-described product category and sub-category and a list of after-sale service conditions is displayed as in FIG. 19.

A description will now be given of processing in the case that user registration and user-owned product registration have already been completed in a step S601.

Initially, after logging in in a step S604, the initial screen shown in FIG. 10 is displayed in a step S605.

Here, information from the user-owned product information 112 linked to the user attribute information 111 is displayed as a list of products owned by a user having the user ID "yamada".

As described above, FIG. 9 is an example of such user-owned product information. On this screen, the user selects "Comparison of after-sale service conditions" from "What would you like to do?" and then selects the products that belong to the product category and sub-category for which comparison is sought. Thereafter, the user presses the "Execute search" button.

Records are extracted from the after-sale service database 116 using the above-described product category and sub-category and a list of after-sale service conditions is displayed as in FIG. 19.

The above description is provided in order to enable any person skilled in the art to make and use the invention and sets forth the best mode contemplated by the inventor of carrying out the invention.

The present invention is not limited to the specifically disclosed embodiments, and variations and modifications may be made without departing from the scope and spirit of the present invention.

The present application is based on Japanese Priority Application No. 2000-219707, filed on July 19, 2000, the contents of which are hereby incorporated by reference.